

Conclusions: RT3D VCA provides an effective monitoring of immediate MR reduction after MitraClip. EVEREST pathologies have a tendency towards better acute results with a significantly lower need of clips.

TCT-783

Successful MitraClip Therapy in Elderly Patients not Amenable to Surgery: Serial Assessment of Echocardiographic and Clinical Variables out to 2 Years

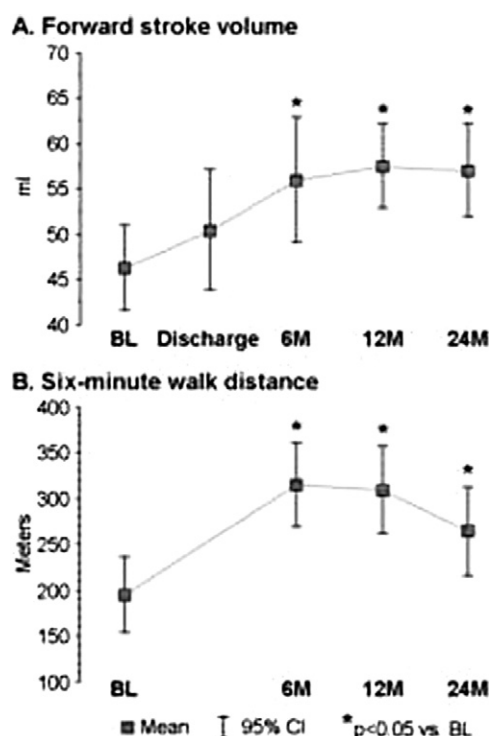
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Background: MitraClip (MC) implantation has recently become a percutaneous option to safely treat grade 3+/4+ mitral regurgitation (MR); long-term data are still scarce. In patients not amenable to surgery, we assessed pertinent echocardiographic and clinical variables out to 24 months after successful (discharge MR $\leq 2+$) MC therapy.

Methods: Of 311 consecutive patients with 3+/4+ MR (54%/46%) treated at our center, 2-year follow-up (FU) was due by July 1, 2012, in 133 successfully treated patients. Forty-one (31%) of these patients had died before FU. Of 92 surviving patients, 83 (74 \pm 9 years; 52 [63%] men; 57 [69%] with functional MR) were followed for a median of 23.8 [IQR, 22.1 – 24.9] months. Transthoracic echo data as well as 6-minute walk distance (6MWD) and Minnesota (MLHFQ) quality-of-life score were assessed at baseline (BL), discharge (D; echo only), 6, 12, and 24 months.

Results: Significant reductions vs. BL were observed at D in regurgitant volume, left ventricular (LV) end-diastolic volume, stroke volume, and LV ejection fraction, but not LV end-systolic volume; all variables remained unchanged at subsequent dates. Forward stroke volume (FSV) increased gradually from 45 ml (BL) to reach a plateau of 55 ml by 6 months (Figure, panel A). Similar improvements were observed for 6MWD (Figure, panel B) and MLHFQ score.



Conclusions: In elderly patients with significant MR not amenable to surgery, successful MC implantation caused immediate and apparently permanent LV reverse remodeling. This translated into significant and sustained improvement in FSV, 6MWD and quality of life out to 2 years.

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Prognostic Implications of Moderate and Severe Mitral Regurgitation in Contemporary Clinical Care

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Background: The impact of mitral valve repair in patients with severe mitral regurgitation (MR), particularly with significant LV dysfunction and comorbidities is difficult to predict. We examined the possible long-term prognostic impact of MR.

Methods: This was a match case-control study that recruited 532 patients from a single-centre echocardiographic database. Patients were matched in a 1:1 fashion (216 with moderate/severe MR and 216 with no/mild MR) adjusting for age, gender, LV function and echocardiogram date. Baseline characteristics were compared between both groups. The association between significant MR and event-free survival was plotted using Kaplan Meier methods. Using a Royston-Parmer (RP) survival model, 15-year outcomes were predicted to estimate the average number of years lost due to MR and the potential life-years added from mitral valve repair.

Results: Both groups were well matched for age, gender, LV function, ischaemic heart disease, hypertension and diabetes. Significant MR was associated with increased 12-month and overall mortality (18% vs. 31%, $p = 0.012$ and 35.6% vs. 46.4%, $p = 0.015$ respectively). Cox proportional hazard analysis demonstrated increased risk of death with significant MR (HR 1.66; 95% CI 1.04-2.62, $p = 0.031$), ejection fraction $< 30\%$ (HR: 1.61; 95% CI: 1.03-2.16, $p = 0.039$), COPD (HR 1.95; CI 1.35-2.85, $p < 0.001$) and renal dysfunction (HR 2.11; CI 1.45-3.07, $p < 0.001$). RP plots were well matched with observed mortality from this and published studies over 12-month periods. A RP plot of 65 year olds with normal LV function and severe MR predicted a median survival of 4.87 years with the potential to gain 1.6 life-years over 15-years following correction of MR. RP plots of 70 year olds with severe MR, LVD and renal dysfunction predicted a median survival of 2.6 years with the potential to gain 1.0 life years.

Conclusions: Mitral regurgitation remains undertreated and is associated with independent prognostic significance. The Royston-Parmer model represents a potentially useful risk stratification tool, which may have significant implications for patient selection and funding discussions for the future application of novel devices for the treatment of MR.

TCT-785

Single Center Experience in Transcatheter Paravalvular Leak Closure: Procedural Success and Long-term Follow-up

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Background: Up to 10% of patients (pts) undergoing valvular replacement will develop paravalvular leaks (PVL) which can result in significant hemolysis (HL) or congestive heart failure (CHF). Many pts are at very high risk for re-operation. Transcatheter occlusion represents an attractive alternative to surgery for PVL.

Methods: Between June 01 and December 10, 56 consecutive pts underwent 61 percutaneous attempts of PVL repair in our institution. PVL closure procedures were initially performed with the Amplatzer Duct Occluder (St Jude Medical, Maple Grove, MN) device followed by the Amplatzer mVSD Occluder device since 05 and/or Amplatzer Vascular Plug III device since 08. Clinical and procedural data were analysed. Technical success was defined as an immediate decrease in \geq one grade of regurgitation without intra-procedural complication. Pt follow-up was performed by questionnaire; all events were verified by case record review.

Results: Pt mean age was 64.9 \pm 11, 51.7% were male, mean logistic EuroSCORE was 18.75 \pm 14%. Mean number of previous surgery was 2.44 and mean interval between last surgery and PVL repair was 92.8 \pm 81.6 months. Indications included CHF (61%), HL (9%), or both (30%), for mitral mechanical (n=39), mitral bioprosthetic (n=5), aortic mechanical (n=11) and aortic bioprosthetic (n=1) PVL. Device implantation was successful in 46 procedures (75.4%) involving 42 patients (75%) and technical success was achieved in 43 of the 61 procedures (70.5%). Two patients had initial prosthetic valve obstruction corrected by immediate percutaneous device retrieval. Three major complications including 2 deaths happened during the 30-day follow-up in the 42 pts who received a device. Mean follow-up was 29 \pm 27 months. Overall 6 pts (14%) required a surgical redo after successful initial device deployment. Multivariable analysis showed that successful PVL repair was associated with a survival free of death, rehospitalisation for CHF or surgical redo (HR 0.34, 95% CI [0.15-0.62]).

Conclusions: Transcatheter PVL reduction is a promising alternative to redo surgery and should be considered for the challenging clinical problem of PVL in high-risk patients.